

**NATUROPATHIC AND YOGIC INTERVENTION IN THE MANAGEMENT OF  
CORONARY ARTERY DISEASE: A SYSTEMATIC REVIEW**

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**ABSTRACT**

The key factor of death in India is the enormous increase of coronary artery diseases. The blood pressure smoking diabetes serum cholesterol asthma and body mass index are the major risk factors in the Indian population. Life pattern patterns socio-economic status and vascular disorder such as artery atherosclerosis play a crucial role in the development of cardiovascular disorders aside from these hereditary influences. As the main blood vessels that supply our heart with blood oxygen and nutrients get damaged coronary artery disease occurs. For coronary artery disease, cholesterol-containing deposits plaque in arteries and inflammation are typically observed. The goal of this paper is to assess the effectiveness of the Naturopathy and Meditation program in coronary atherosclerosis regression and cardiac injury reduction in an open study. Naturopathy diet salt minimal high-fiber vegetarian diet mild yoga and stress relief by rajyoga meditation was given to one hundred angiographically effected mild to extreme coronary artery atherosclerosis patients. Training in self-responsibility healthy and self-empowerment through the inner approach to self-consciousness using Rajyoga meditation is its most prominent aspect. After a 90-day in-house reassessment and specialized preparation patients are invited for one year of follow-up. All the patients were assessed at the end of 3 months to undergo repeat angiography. Our goal in this study is to study the overall positive adjustments in physiological biochemical and psychological parameters of cardiac patients closely linked to the program of Naturopathy and meditation. The

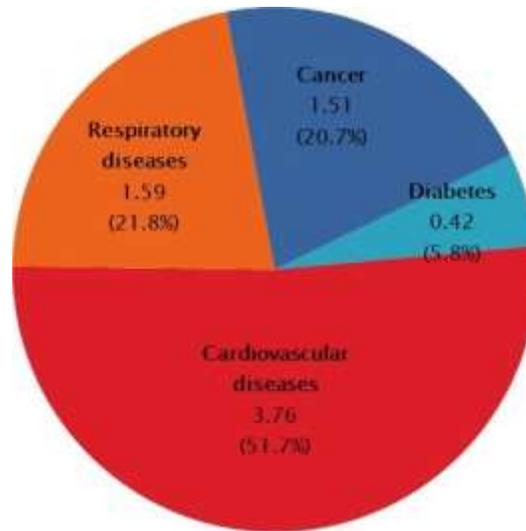
study involved 200 patients with suspicious CAD and one-year follow-up with clinical results from the coronary CT Angiography examination.

**Keywords:** Coronary Artery Diseases (CAD), Naturopathy, Meditation, Rajyoga meditation.

## Introduction

Expiry from Heart related diseases among countryside Indians have exceeded those compared urban Indians, rendering to a forthcoming research, lifestyle modifications may be a major cause of such fatalities in India (4), as in the West. Research, which offers first kind, nationally representative approximation of cardiovascular mortality in India, shows that heart disease caused more than 2.1 million fatalities at all ages in India in 2015, or more than a quarter of all fatalities as shown in Figure 1. The coronary heart illness caused 0.9 million (68.4%) and the stroke caused 0.4 million (28.0%). The research demonstrates that adults born after the 1970s have a much greater effect on such fatalities than those born before (1),(2), (3).

CAD is a main reason for early death and ill health in both developing and developed nations. CAD is now widely recognized as a lifestyle disease; hence its management should be lifestyle modification. The lifestyle studies in small number of Heart disease victims shown that dietary modifications, physical workout and anxiety relaxation techniques can curtail progression of coronary blockages and decrease the occurrence of angina and attacks. In the heart study, a combination of an extremely low fat diet, exercise, stress managing, yoga reduced progression of CAD, but the low fat regime is unnecessarily very rigid and difficult to follow. Recent investigations have provided convincing evidence that the present prevalent outer self (body, role, material) conscious approach can lead to activation of psychosocial reasons like depression, anxiety, anger, hostility, isolation and chronic life stress that contribute significantly towards development and promotion of CAD by encouraging adoption of unhealthy lifestyle behaviours like smoking, atherogenic diet and sedentary habits. Considerate effects of meditation is an significant area of research, particularly considering the application of meditation techniques in



**Figure 1: CVD in India**

medical preparation and therapy. Meditation can support CAD people to monitor the functioning of brain and due to that, diverse meditation practices can be applied to progress mental fitness.

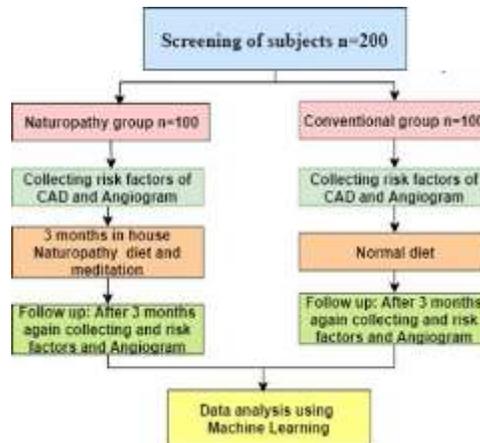
With the increase in Heart diseases during the past few decades, non- invasive and alternative medicine of high-risk patients can play an important role in curing CAD. Although the existing researches evidenced the value of naturopathy and meditation in relieving CAD and producing psychological well-being, more rigorous studies are required with better design randomized controlled trials, and large sample sizes. Hypertension is a vital and poorly controlled hazard factor for evolving cardio artery disease (5) in the USA, including myocardial infarction and artery atherosclerosis. it is responsible for more than 400000 deaths each year. The main risk factors of cardiovascular diseases in US population are high levels of cholesterol, smoking, blood pressure, diabetes and body mass index (6),(7),(8). Conferring to the National Ambulatory Medical Care Survey, fewer than 50% of patients with hyper tension received lifestyle counselling (9).In contrast, descriptions of Naturopathic Diet (ND) practice suggest clinical recommendations by naturopathic diet procedure include diet counselling, exercise prescription and stress management advice for 69–100% of diabetes patients (10),(11),(12),(13). Naturopathy is a distinct system of traditional and complementary medicine (14),(15) recognized by the World Health Organization (WHO), emerging as a model of primary care (16). In Washington State, ND physicians are primary care providers with a scope of practice that includes nutritional supplementation, herbal medicine, nutrition, exercise, physical medicine modalities, minor surgery and most prescription

drugs, including all classes of anti-hypertensive medications (17), (18). Frequently classified as complementary and alternative medicine (CAM), ND (19) is a variant of healthcare delivery that provides an interesting model to study the effectiveness of cardiovascular risk factor reduction because it includes health promotion counselling nutritional supplementation and pharmacologic treatment options. ND (20) care creates a laboratory for evaluations of both the effectiveness of health promotion in practice and of an “integrative” practice model, including CAM plus select prescription therapy.

Naturopathy is a traditional system of medicine that believes in the body’s innate capacity to heal itself (21). In India (22), the philosophy and practice of naturopathy differs from that of other countries. India is the origin of Naturopathy and yogic practices and regulatory affairs of naturopathy (23). Bijlani et al. were studied the short-term impact of a brief lifestyle intervention based on yoga on some of the biochemical indicators of risk for cardiovascular disease and diabetes mellitus (24). Bairy, S et al.(25) studied short term effect of Naturopathy as an adjunct to pharmacotherapy on glycaemic control among type 2 Diabetes patients.

## **METHOD**

Modern lifestyle, is an important risk factor for increasing occurrence of CAD in the Indian population. In this study we will evaluate the effect of Naturopathy (salt restricted low-calorie) diet and meditation in long term in people with coronary atherosclerosis. The selection criteria chosen is subjects between 40 to 70 years of age, Both genders, diagnosed and treated for coronary atherosclerosis for the past one year or more, consent to participate. In this group the subjects will be enrolled for a three month residential Naturopathy intervention program comprising diet, yoga (26), meditation treatments, massage, and interactive lectures on lifestyle modification and CAD self- management. Patients underwent a structured routine which involved physical activity, yoga program with asanas, pranayama, meditation and relaxation, calorie restriction, and salt restricted diet. The diet prescribed was a low glycemic index, salt restricted, high fibre plant based diet containing whole grains, legumes, vegetables and fruits with no added oil, sugar. They also underwent short intermittent juice fasting with calorie restriction over 3 to 4 days a month.



**Figure 2: Trail profile**

They had to undergo a structured routine treatments such as hip bath, immersion bath, jets, sprays, douche, mud and steam bath apart from partial and full body Swedish massages. The goal of treatment was weight reduction if overweight, stress reduction and dietary intervention to manage cholesterol and BP. The patients are in this facility for a period of three months and were supervised by doctors and cardiologist over the course of their intervention. The oral medication was constantly monitored and tapered based on their Blood glucose, serum cholesterol, triglyceride and HDL-cholesterol will be estimated. Patients will be advised to wake at 5 AM and according guidelines they drink 1.5 litres of water and training of yoga and meditation will be given for two hours, again after this they are advised to drink 1.25 to 1.5 litres of water to clear their intestine. Morning 7 AM fruits, sprouted seeds, salads will be given as breakfast. Again they will be advised to drink 1 litre of water in three intervals in between 10 AM to 12 AM. Afternoon roti or brown rice with two curries (Salt restricted and oil restricted) will be given. Evening they will be given training on special Yoga to reduce their BMI. 6.30 PM they will be given 3 to 4 types fruits in their dinner. For diabetic patients, fruits are not given in the dinner, for them again roti and zero salt and zero oil curries will be given.

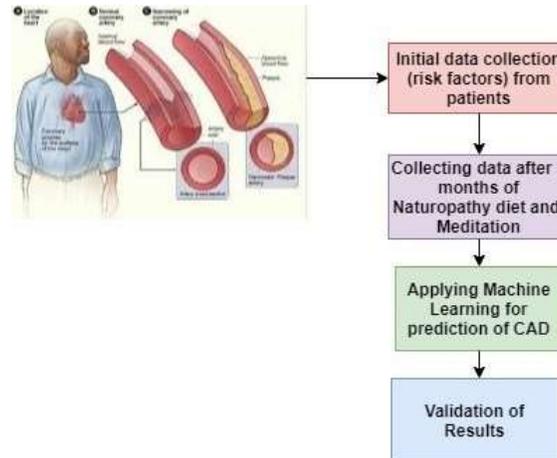
### ***Stress-management through Rajyoga meditation***

Stress is characterized as mental-state in which the internal and external pressures surpass the inner strength (coping mechanism) leading to sympathetic over activity and release of stress hormones which in turn leads to vicious cycle of mental disease and physical disease (27),(28), (29). Inner strength can be increased by Rajyoga. The term Rajyoga is derived from the union of Soul

(spiritual energy) and Supreme Soul (ocean of spiritual energy) between Raja, meaning king and yoga. Spiritual, mental and physical energy is harmonized by Rajyoga meditation, thus increasing internal power to lead a stress-free and balanced life. It increases the capacity of commitment of individuals to control and maintain optimistic thinking, feelings, behaviors, memories and stick to balanced food, exercise, sleep, medicine, and smoking cessation. In three separate levels, specialist Rajyoga teachers from Prajapita Brahma Kumaris taught Rajyoga meditation. Patients were given knowledge of Soul and Supreme Soul during Stage-I (Inner self-empowerment) and learned to build a connection to the Supreme Soul to draw divine energies. This was followed by preparation programmes to open and restore the mind and to open the coronary blocks. Patients were made to realize the role of non-physical factors such as depression, anger, scepticism, animosity, ego, jealousy, rush, worry, anxiety, fear, alienation, lack of social and emotional support, job and family stress, etc., in the creation of CAD in Stage II of opening and curing the mind. They were trained to inculcate the positive mental energy thereby enhancing willpower to adhere to healthy and happy lifestyle program. In stage-III of opening the coronary blockages by Rajyoga meditation, they were asked to focus the inner, radiant spiritual energy on various organs of the body including the stenosed arteries for regression of the disease. A meditation commentary was provided to guide the mind in a positive direction. They were encouraged to maintain an inner self (soul) conscious mental state even while engaged in day-to-day work activities.

### ***Follow-up***

Patients participated in daily support sessions, of 30-45 minutes, at their local Brahma Kumaris Rajyoga centres. To ensure proper adherence, weekly group support sessions facilitated Rajyoga teachers addressed their day-to-day challenges. Those inaccessible will be sent questionnaires with self-addressed, stamped envelopes. At 6-monthly intervals, patients invited for follow-up and reassessment. The study parameters are repeated at 6,12,18 and 24-month intervals, and patients are advised to have repeat angiography after one year of follow-up.



**Figure 3:**

### ***Blood Biochemistry***

Blood glucose, serum cholesterol, triglyceride and cholesterol can be estimated using commercially available kits using RA 50, semi-automated clinical chemistry analyser (Bayer Diagnostics, India). Glucose kits can be obtained from Bayer Diagnostics, India. Total cholesterol, HDL cholesterol and triglyceride kits can be obtained from M/S Ranbaxy Diagnostic, India. The LDL cholesterol and VLDL-cholesterol are calculated using Friedewald's formula.

### ***Coronary Angiography***

Baseline and repeat coronary angiography coded to blind group allocation and to angiography sequencing. With a panel of two independent cardiologists analyzed the angiograms and selected the views in which the blockages are best seen. All 100% occluded lesions, instant lesions and non-matching lesions were excluded. An electronic Digimatic Calliper (Mitutoyo, Japan) can be used to quantitatively assess the percent diameter stenosis. Trends towards regression/ progression are to be calculated by the percentage of patients who showed overall regression/progression in repeat angiographies as compared to baseline coronary angiographies.

## **DISCUSSION**

The outcome of this research indicates that angiographic improvements via Rajyoga therapy is attributed to weight loss, triglycerides, diet, workout routine and control of psychosocial stress..

This work is a feasibility study to assess its efficacy on CAD regression. In this study, highly significant regression was observed in coronary artery disease, but it is known that some lesions can regress and progress spontaneously. The multivariate analysis showed that weight and lipid parameter changes are not independent predictors of CAD regression, but psychosocial stressors control by Rajyoga was an independent predictor of CAD regression. CAD patients were also inspired by the Rajyoga therapy to stick more to food, exercise, medication schedules and cessation of smoking.

## **CONCLUSION**

The ND system is practical, secure and consistent with other treatments in the environment of highly compliant advanced CAD. The study results support the hypothesis that this innovative user-friendly balanced naturopathy and lifestyle meditation system, which motivates patients to take responsibility for their own health, will be embraced and retained. The practice of internal self-awareness could lead to a significant reduction in cardiac events, cardiovascular disorders and effective control of symptoms such as angina and breathlessness, reduction of antianginal medication requirements, better control of hypertension and enhancement in exercise sensitivity. Significant decrease in cardiovascular hospitalization was observed over a two-year follow-up period.

## **ACKNOWLEDGMENT**

This work was supported by JNTUH under Technical Education Quality Improvement Programme (TEQIP III) with project grant agreement number TEQIP-III/JNTUH/ECE/11.

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**Table 1: CAD Treatment Using Different Approaches**

<b>STUDY</b>	<b>METHOD</b>	<b>RESULTS</b>
Rajiv Rastogi (22)	Naturopathy	Naturopathy has enormous potential and in various diseases can become an active method of treatment's.
ST Sinatra, et al. (30)	Nutritional and integrative strategies	the main cause of heart disease is cholesterol
Kavita Prasad et al. (15)	Complementary therapies	Just 14.4% spoke to their doctors about the use of complementary therapies
Nick et al. (31)	Estrogen replacement therapy	During menopause the cause of coronary artery disease was studied in women.
Gloria Yeh et al. (32)	Complementary therapies	Less respondents (10%) used cardiovascular complementary therapies explicitly
Ramesh L. Bijlani et al. (24)	Lifestyle Education Program Based on Yoga	Observations say that a system of quick lifestyle change and stress management training results in positive metabolic effects within 9 days.
S C Manchanda et al.(33)	Yoga and meditation	This research suggests that yoga is a cost-effective technique for cardiovascular disease primary and secondary prevention.

Walton et al. (34)	transcendental meditation program	This review suggests that this technique could result from the normalization of neuroendocrine systems that have been distorted by chronic stress.
Michalsen et al. (35)	Stress reduction through Lifestyle Program	This work has not improved the health of patients with clinically healthy CAD. The system seemed to give women cognitive advantages, but not men.
Satyalakshmi et al. (36)	Naturopathy	Gandhi Ji strongly recommended nature cure practice, which puts a great deal of stress on the liability of the individual.